

REMARKS**Amendments**

Claims have been amended to more clearly set forth the concept of the stopper support members being "tapered" and "individually made with different outer dimensions." Specifically, claim 2 was rewritten in independent form by incorporating claim 1 and a feature, "said second stopper supporting member has a tapered surface ..." to further clarify that the members are tapered and have different dimensions. Similar amendments were made in claim 8 and claim 10. Support for the amendments is found in the original claims and in the specification. The amendments do not add new matter or raise any new issues as the new additions have already been presented at least inherently in the original claims.

Claim Rejections – 35 USC §103

Claims 1-12 have been rejected under 35 USC 103(a) as being unpatentable over Admitted Prior Art of Figs. 5, 6, and 11 (APA) in view of US patent 2,282,295 to Olson and further in view of DE 3441225 to Groschupp.

The Office Action dated May 20, 2004 states that the APA discloses all of the elements of the claimed invention except the stopper devices (2) ("stoppers") each having a first diameter at the first end being greater than a second diameter of the second end (i.e. tapered) and forming a continuously tapered shape, and the first and second ends of abutting stoppers having substantially the same outer dimensions or diameter. The Office Action further elaborates that Olson discloses a tripod assembly with a clamping member (36) having a tapered shape with a diameter gradually increasing from the second end (adjacent 40) to the first end (adjacent 37), and that it would have been obvious to one of ordinary skill in the art to modify the stoppers of the APA to taper from top to bottom because of the disclosure in Olson and because modifying the stopper supporting member would have been a matter merely of design consideration. Furthermore, in the Office Action, it is stated that Groschupp discloses a tripod leg assembly having a plurality of stacked stoppers (20, 25, 30) with the same outer dimensions, i.e., width and length, and that it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify abutting first and second ends to have the same outer dimensions.

Applicants, however, submit that the APA in view of US patent 2,282,295 to Olson and further in view of DE 3441225 to Grouschupp do not render obvious the present invention for at least the following reasons.

The APA (i.e. Fig. 11) shows individual stoppers (2) that are not tapered and clearly have different diameters, as acknowledged in the Office Action. It is the contention of the Office Action that Olson teaches a tapered clamping member 37 and that a person of ordinary skill in the art would have been taught to taper the stoppers (2) of the APA from “top to bottom.” Applicants submit that a closer inspection of Olson’s clamping member 36 shows that it has two parts – the upper half with the pin 37 and the lower half with the clamping bolt 40. The lower half seems to be tapered slightly but the upper half is clearly not tapered.

Applicants submit that there is no suggestion or motivation in the APA or Olson to modify the stoppers of the APA based on Olson’s clamping member 36 to taper from “top to bottom” as suggested in the Office Action because Olson teaches a single clamping structure with the tapered and untapered parts and the APA shows no tapered stoppers. That is, Olson or the APA is completely silent as to how the tapering of the clamping member 36 could be adapted or modified for the multiple stoppers of the APA. Applicants submit that impermissible hindsight was used to assert that Olson’s clamping member 36 would have suggested to one skilled in the art to taper the stoppers of the APA from “top to bottom.”

Therefore, the adaptation of the untapered and tapered unit structure of Olson’s clamping member 36 to the stoppers of the APA would not have produced a tapered structure from “top to bottom” as suggested in the Office Action. Rather, a person of ordinary skill in the art would have been taught perhaps to have the untapered and slightly tapered parts for each individual stopper so that the over all stopper structure would have had stoppers each with alternating slightly tapered and untapered parts running down each leg.

With regard to the assertion in the Office Action that the tapering is merely a matter of design choice or consideration, Applicants submit that this is not the case. The present invention states, for example, on page 4, lines 15 to 20 that the purpose of tapering is to eliminate or minimize indentations between the stoppers and prevent inadvertent catching between the stoppers. Thus, the claimed structure is not merely a design choice or consideration.

Applicants further submit that the combination of the APA and Olson does not disclose, teach, or suggest that “said second end of said stopper supporting member having substantially the same outer dimensions as a third end of said second stopper supporting member...” as set forth in claims 2, 8, and 10. That is, the APA and Olson with a disclosure only of the single clamping member 36 with the untapered and tapered parts do not disclose, teach, or suggest the feature of abutting ends of two adjacent stopper supporting members, having substantially the same outer dimensions.

However, Groschupp in combination with the APA and Olson is used in the Office Action to assert that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify abutting ends of the stopper supporting members to have the same outer dimensions. But in fact, Applicants submit that the teaching of Groschupp in combination with APA and Olson would not have taught, suggested, or motivated one skilled in the art to modify the abutting ends of the stoppers of the APA to have the same outer dimensions.

Groschupp teaches a tripod assembly with three legs. Each leg is made of two parallel shafts held together by multiple stoppers (see Fig. 1). Because the parallel shafts of the leg are equal distance apart, the stoppers themselves generally must also have holes whose centers are equal distance apart. Thus, because the holes in the stoppers must accommodate the two parallel shafts, the stoppers cannot generally be tapered and must generally be of the same dimensions. In contrast, the legs of the APA are made of single shafts, each with a tube-within-a-tube structure so that the accommodating hole of the stopper, and therefore, the stopper itself can be made smaller with each successive smaller tube structure. Therefore, stoppers can be made to have successively smaller dimensions as seen in the APA, Fig. 11. Olson also shows a single shaft structure for each leg.

Applicants submit that one skilled in the art would not have looked to Groschupp or combined Groschupp with the APA and Olson because of the fundamentally different structures of the legs taught by these references. That is, there is no motivation or suggestion to combine the teachings of the APA, Olson, and Groschupp because the APA and Olson teach a single shaft construction and Groschupp teaches a parallel double shaft construction. The structure disclosed by Groschupp would have inherently excluded any substantial dimensional changes of the stoppers disclosed by the APA and substantially any “tapering” allegedly taught by Olson except for, perhaps, a slight tapering so that the positions of the holes of the stoppers are not interfered. Because the structure of Groschupp would have excluded the features of the APA and Olson, it follows that a person of ordinary skill in the art would not have looked to Groschupp for any reason or motivation to modify the structures of the APA or Olson, let alone the abutting ends of the stoppers of the APA to have the same outer dimensions.

Moreover, even if it is implausibly assumed that a person of ordinary skill in the art would have combined the APA and Olson with Groschupp, the combination would not have suggested the present invention as claimed. As stated previously, with the APA and Olson, a person of ordinary skill in the art would have been taught perhaps to incorporate the untapered and slightly tapered parts for each individual stopper of the APA so that the over all stopper structure would have untapered and slightly tapered stoppers running down each leg. With Groschupp as a reference with two parallel shaft structure for each leg, a person of ordinary skill in the art might have adapted the two shaft legs to a series of untapered and slightly tapered stoppers (only slightly tapered so as to not to interfere with that the holes accommodating the parallel shafts) with no dimensional changes of one stopper to the next. Therefore, the dimensions of the abutting ends of the adjacent stoppers -- the tapered end of one stopper and the untapered end of the adjacent stopper -- would be different as taught by the APA. This structure is clearly different from the claimed invention. The point of this explanation is to emphasize that there is no teaching or suggestion within the references to direct one skilled in the art to the present invention as claimed. Applicants assert that it is only by the benefit of impermissible hindsight that the Examiner can conveniently

pick and chose the elements from the references to proclaim that these references teach the claimed invention.

In summary, for the foregoing reasons, the pending claims are not believed to be obvious over the cited prior art references.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

By

Chris T. Mizumoto

Registration No.: 42,899
DARBY & DARBY P.C.
P.O. Box 5257
New York, New York 10150-5257
(212) 527-7700
(212) 753-6237 (Fax)
Attorneys/Agents For Applicant